update

SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

No. 51/Spring 1993

Moscow Conversion Conference Explores New Directions for Aerospace Industry

More than 460 delegates from 26 countries attended a conference in Moscow (12-17 October) to explore means of converting military aerospace technologies to civilian uses.

It was the first United Nations conference to discuss conversion in relation to a specific industry.

Among the Conference's recommendations to the international community, policy makers and the private sector was a proposal to establish national and regional centres focused on the challenges of conversion. The centres would be linked through databases and would provide, among other things, institutional support for member States and training and internships to prepare managers of military enterprises for the challenges of private-sector enterprise and competition in open markets.

A Declaration framed by the participants urges the international community to extend agreements to limit weapons proliferation and the arms trade, and asks Governments to provide unemployment benefits for laid-off defence workers. The Declaration also seeks for private investors in conversion projects in transitional economies guarantees of protection against political risks such as expropriation.

Aerospace enterprises are urged to explore innovative forms of business collaboration including private-sector and worker ownership and the development of industrial "incubators" to facilitate the dissemination of technologies through small and medium-sized enterprises.

The challenge, according to the Declaration, is to establish a comprehensive conversion process which minimizes the economic dislocation anticipated with global reductions in military spending. One related suggestion was for the use of military remote sensing satellites and launch vehicles for the proposed global environment monitoring network and minerals exploration.

A number of delegates praised the Declaration as an important step towards peacetime economies for industrialized and developing nations. The Conference was the first United Nations Forum to discuss conversion for a specific industry, and it will be followed by workshops aimed at future conversion conferences targeted on new materials and nuclear technologies, informatics and biotechnology.

The Conference was held at the Russian Academy of Management and was organized by the Science, Technology, Energy, Environment and Natural Resources Division of the United Nations Department of Economic and Social Development (DESD) and the Government of the Russian Federation in close cooperation with UNDP and DPA in collaboration with UNESCO and UNIDO. Financing was provided by

(Cont. Pg. 2)

UN Postage Stamps Honor S&T

The United Nations Postal Administration has produced a set of six stamps recognizing the fundamental role of science and technology in everyday life. We would like to share them with you in this issue.

Conversion Conference
(Cont. from Pg. 1)

the United Nations, UNDP and the Rockefeller Foundation.

Among responses to the Conference so far are:

- A proposal by the University of Texas to host a follow-up meeting in 1993. This event would focus on global environment and development problems in the context of technology assessment for the conversion of aerospace complexes and on Agenda 21 of the United Nations Conference on Environment and Development (UNCED);
- An offer by the Yale Law School to organize the first world-wide international scientific network, to be known as the United Nations Scientific Channel, using aerospace technologies as its basis;
- A decision by the Russian Federation to set up a National Centre for Aerospace Complex Conversion. This follows a special decree by President Boris Yeltsin and will play an important role in harmonizing conversion and international cooperation in this field;
- A management training proposal for restructuring of the military-industrial complex of the CIS nations. This project has been developed by the University of Dortmund (Germany) within the European Community programme of Technical Aid for Russia; and would draw on recommendations in the Moscow Declaration;

ATAS Bulletin

- Expressions of interest by the European Bank for Reconstruction and Development (EBRD). Conversion is one of the EBRD's highest priorities, and this bodes well for financial support for planned conversion activities.

The proceedings of the International Conference on Conversion of the Aerospace Complex: Technology Assessment for Development will be published in a special issue of the Advanced Technology Assessment System (ATAS) Bulletin. ■

Quest for Local S&T Capacity

First policy dialogues on the strengthening of endogenous capacity in science and technology were held in Pakistan, Togo, Cape Verde and Uganda late last year with support from STEENRD/DESD.

Pakistan

The Pakistan dialogue (Islamabad, 1-3 September) was held against the background of national development programmes focused on social interaction and privatization. It generated a number of major recommendations, of which three will be examined in depth as the basis for new initiatives. There were 33 participants, representing the Government, R&D institutions, private industries and provincial administrations, who noted, among other things, that a lack of private-sector-supported R&D had constrained the nation's development efforts and hindered research which could benefit mainstream activities related to economic, social and environmental objectives.

Togo

Discussions in Togo (21-23 September) attracted 30 participants.

The Minister for Education and Scientific Research, Mr. Clarence Johnson, spoke of the need to develop the nation's industrial sector and to encourage closer collaboration between private enterprises and R&D institutions. He spoke also of an earlier request by the private sector for a National Centre for Technology which could help small and medium-sized enterprises to develop and improve the quality of their products and to train technicians.

Cape Verde

The Government has expressed its determination to modernize Cape Verde's productive structures and institutions, and the dialogue (28-30 September) identified a number of priorities, including education reform with a focus on vocational skills and the establishment of the country's first university. The Minister of Education, Mr. Carlos Burgo, presided over the opening session, and Mr. Manuel Varela Neves, Director of Planning in the Ministry of Finance and Planning and Chairman of the National Steering Committee, expressed hope that the discussion would energize endogenous capacity-building in S&T. There were 31 participants representing the various socioeconomic sectors of the country.

Uganda

Uganda does not have a formal science and technology policy or a plan for the application of S&T, and the dialogue (23-24 November) was the first serious step towards a systematic S&T approach towards development. It was also the first serious effort by the Government to involve people outside of the R&D sector in matters related to S&T.

The dialogue exposed 25 participants to the role technology can play in helping the rural population. And it challenged them to think more about the problems Uganda faces as a nation and less about the individual problems of stakeholders in the economy. ■

Round Two in Jamaica

Five issues were selected for urgent consideration as a result of Jamaica's second policy dialogue under the Interregional Project on Endogenous Capacity Building in Science and Technology for Development (Kingston, 8-9 December).

They were:

- Renewable sources of energy: biomass;
- Information technology;
- Production of capital goods and the protection of patents and intellectual property;
- Development of primary and secondary education;
- Strengthening of institutions.

A National Steering Committee will now select two or three of the five for feasibility studies which would be reviewed during a third policy dialogue

(Cont. Pg. 3)

READEX

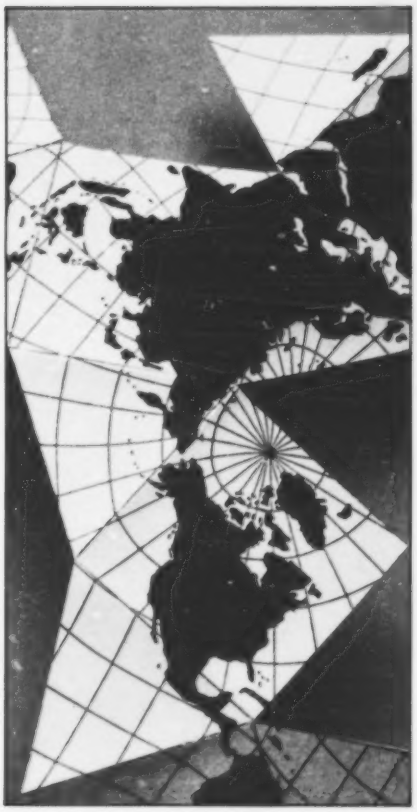
Cartographic Conference Meets in New York

The Fifth United Nations Regional Cartographic Conference for the Americas was held in New York from 11 to 15 January to review the latest developments relating to the politics and management of national mapping and charting programmes. The Conference also focused on new developments affecting nations' quest for sustainable development, managerial and technical aspects of national development programmes, policies and practices in cartographic products distribution, the standardization of geographical names and human resources development.

Three committees covered technical issues. The first dealt with satellite geodesy and the acquisition of cartographic data by aircraft and space platforms, while the others concentrated on the manipulation, storage and presentation of cartographic data. Those committees also discussed digital databases for land information systems and geographic information systems as well as satellite geodesy; topographic and large-scale surveying and mapping; hydrographic, nautical and aeronautical charting; thematic mapping of natural resources; and digital cartographic databases and terrain modelling.

Potential Not Realized

As noted in one major background paper, modern cartography is essentially a "first world" technology, with a potential that has yet to be fully realized. "As with other aspects of development, technology transfer in mapping is not purely a technical matter", it stated. "The appropriateness of the technology being transferred and the development of indigenous technical expertise are just as important."



The paper noted that the increasing power of microcomputers represented a quantum leap in the field and that mapping systems in developing countries were rarely controlled by indigenous scientists. Two significant exceptions were China and Mexico, which had invested heavily in developing their mapping skills.

Reports

The Conference considered a series of reports from countries including Argentina, Brunei Darussalam, Canada, China, Ecuador, Finland, Germany, Japan, Mexico, Oman, Panama and the United States, as well from the International Federation of Surveyors.

The United Nations provides technical cooperation to developing countries in surveying, mapping, hydrographic charting and geographic information systems. Among recent examples cited at the Conference were the strengthening of the hydrographic unit of the Survey Department in Trinidad and Tobago, a technical cooperation project now being formulated in Haiti, training courses and seminars with national counterparts in Adelaide, Australia; Rio de Janeiro; Washington, DC; and Beijing.

Recommendations

The Conference recommended, among other things, that:

- An international advisory group be established to help developing countries acquire modern mapping technologies;
- The United Nations provide advice to small nations through regional seminars on the development of geographic and land information systems;
- Member states make publicly funded land and geographical data sets available at the least possible cost;
- Efforts be made to increase the participation of women in cartographic sciences;
- Fellowships in mapping technology be awarded to candidates in developing countries;
- Environmental information systems be established as an aid to sustainable development. The Conference observed that constraints on the availability of digital land and geographic information were "in conflict with the clear aims and spirit of the United Nations Conference on Environment and Development". ■

Round Two

(Cont. from Pg. 2)

scheduled for the spring/summer of 1993. Participants in this review would include government representatives, potential donors and interregional agencies, with a view to mobilizing internal and external resources for a select portfolio of initiatives.

The second round was chaired by Dr. Arnoldo Ventura, Chairman of the National Steering Committee and Special Advisor to the Prime Minister on Science and Technology. ■

Energy Choices

The Office of Domestic and International Energy Policy of the United States Department of Energy has proposed a new programme to help developing countries choose wisely from available energy technologies and operating practices.

For further information, please contact Dr. Bary Gale, Office of Domestic and International Energy Policy, U.S. Department of Energy (mail stop EP 61), Forrestal Building, 1000 Independence Avenue, Washington, DC 20585. Fax: 202-586-5342.

All-India Solar Enterprise Thrives

A small solar company in Madras, India, is winning national and international attention with its innovative products and management style.

The company, Solker Enterprises, has more than doubled its annual turnover every year since 1987, when its 30-year-old founder, Mr. K. E. Ragunaathan, graduated from Anna University in Madras with a degree in mechanical engineering.

A first-generation entrepreneur, Mr. Ragunaathan developed heating panels which use no imported materials and can be sold in India for $US 200 for a two-square-metre unit. Solker has also developed a solar heater and cooker and is working on commercial applications for solar dryers and air-heating systems. Its management offices use solar air-conditioning. All production at Mr. Ragunaathan's factory in Ambattur, just outside Madras, is driven by solar power, with the exception of night lighting.

Solker has installed almost 900 solar flat plate water heaters and cookers in houses, hotels, hospitals and canteens and has an order to export units to Germany this year. The company works closely with Anna University and has established a foundation to support its students and supply laboratory equipment. In return, professors and graduates from the University work out the production designs with company staff. Solker also runs a home for 28 handicapped young people and has plans to start a subsidiary company to employ them.

Solker has won a number of national awards for its industrial prowess and civic-mindedness, including a Best Employer award for its factory floor management style and employee benefits.

The company's employees receive a salary plus medical benefits, schooling for their children and a bonus for the quality of their output. Solker donates Rs 100 to an Employee Benevolent Fund for every square metre of panel sold. Every Solker system comes with a full 12-month repair guarantee. If a system fails, the repairs are covered by the Fund. But if it doesn't, the full amount goes to the employees at the end of the year. The Fund has had two main effects. It has given workers an incentive to monitor the quality of their own work and to keep the number of employees per unit low so that the bonus is shared among fewer people. The workforce has grown from 10 to 28 since 1988, with no turnover. Most employees are recruited from technical schools and universities.

Solker has benefited from government funding through the Indian Renewable Energy Development Agency (IREDA) and from subsidies which the federal Government and the state government of Tamilnadu offer to purchasers of renewable energy systems. The company has franchises in Andhra Pradesh, Karnataka and Kerala, and is planning a joint venture in Indonesia.

The company has recently developed a solar cooker in which oil, not water, is sealed in the heat transfer circuit. The oil removes the risk of corrosion, and a storage element generates temperatures high enough for frying, even at night. Rice can be cooked in just 30 minutes. ■

Humble Food Plants Fight Back

A potato plant that mimics the Venus fly-trap and a super strain of cassava hold enormous promise for food production in the world's poorest countries.

The "hairy" potato, named for the hair-like trichomes on its leaves, traps and kills insect pests as they try to eat or reproduce. It was developed by the International Potato Centre (CIP) in Peru and is the first recorded example of wild species being used to produce an insect-resistant potato for human consumption. Field tests have shown that the hairy potato resists everything from mealy bugs to the Colorado potato beetle and could save the developing world much of the $300 million it spends each year on insecticides used in potato production.

Cassava

"Super" cassava, developed by the International Institute of Tropical Agriculture (IITA), in Ibadan, Nigeria, could multiply African production more than threefold, from 12 to 40 tons per hectare. Cassava is a native crop of Brazil and is the main staple for more than 200 million Africans. It is also grown in Latin America and in the Pacific region by poor farmers who could benefit from a further development announced recently by the International Center for Tropical Agriculture (CIAT).

New products

CIAT's cassava research programme has developed small-scale processes to produce cassava chips for animal feed, fresh preserved cassava, cassava flour and cassava starch. These new products have extended the use of cassava to include cookies, pasta and soup noodles, spice bases, bread, soft sweets, sauces and even ice-cream cones.

All three centres, CIP, IITA and CIAT are members of the Consultative Group on International Agricultural Research (CGIAR), an informal association of some 41 public- and private-sector donors who support 17 international agricultural research centres.

United Nations

The World Bank, the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO) are co-sponsors of the CGIAR.

ATAS News

No. 18/Spring 1993

Strong Global Response to Proposal for Technology Assessment Body

Science and technology institutions worldwide are increasingly involved in technology assessment and forecasting, and a significant number have expressed interest in creating a network to share information through a new international association.

Some 45 institutions in 33 countries have so far responded to a STEENRD/DESD survey of support for an International Association of Technology Assessment Institutions to:

- Promote technology assessment and forecasting at all levels of decision-making;
- Share information among member institutions;
- Collaborate in technology assessment through joint activities;
- Support capacity building and training for professionals in developing countries.

These four main objectives of the proposed network would be promoted through meetings, publications and financial support from bilateral and multilateral sources.

The idea for a non-governmental association and global network of organizations involved with technology assessment was first raised by the Office of Technology Assessment of the United States Congress (OTA) at a workshop arranged jointly with the United Nations. More than 30 international experts on TA met at the OTA offices in Washington, DC, in November of 1991 to discuss methodologies, institution-building and networking. It was noted at that time that many institutions involved with TA were less than 10 years old, and it was felt that this community as a whole could benefit

UNDP—Rafal Olbinski

from greater communication and interaction.

Support for the idea developed further in 1992 when the United Nations Conference on Environment and Development (UNCED) emphasized the need for technological cooperation between developed and developing countries as one response to global environmental change. TA was promoted as an important tool for sustainable development as countries reached for new technologies to fulfil their development goals and needed the capacity to sift their options carefully. It was also recognized, however, that most developing countries were disconnected from TA activities which were already well advanced in Europe and the United States.

The proposal for a network was further discussed at a special session for technology assessment institutions at a United Nations meeting on technology monitoring, assessment and forecasting, held jointly with UNESCO in Paris (25-29 January, 1993).

For further details, please contact Science and Technology Branch, United Nations, One United Nations Plaza, New York, NY 10017, USA. ■

Shanghai Workshop

Preparations are well advanced for a training workshop on technology assessment and management to be held in Shanghai, China, from 8 to 15 June, 1993.

The workshop is designed for individuals working in technology and impact assessment as well as science and technology policy in China and other East and South-East Asian nations. All participants must be professionals in these fields who can apply the experience directly to their working environment.

The workshop is being prepared by the Division of Science, Technology, Energy, Environment and Natural Resources within the Department of Economic and Social Development of the United Nations. Tentative partners in its

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Shanghai Workshop
(Cont. from Pg. 1)

organization include the United Nations Fund for Science and Technology for Development (UNFSTD), the State Science and Technology Commission of China, the Shanghai Institute of Science and Technology Management, the Shanghai Industry Foundation and the International Association for Impact Assessment (IAIA). The event has been scheduled in conjunction with the annual IAIA meeting.

The workshop will include:

- A training element and a field study of the Pudong new economic zone;
- Substantive sessions, panels and workshops of the annual IAIA meeting (11-15 June). ■

Natural Resources Meeting

The Committee on Natural Resources will hold its first session in New York (29 March-8 April) following its re-establishment as an expert body by ECOSOC.

Twenty-four experts representing all regions will meet in two working groups to discuss substantive issues related to water and mineral resources, including:

- The sustainable development and use of water resources;
- The financing and transfer of technology for the development of mineral resources;
- Small-scale mining;
- Information management and capacity building in the field of water and mineral resources.

The session is likely to pay special attention to the implementation of UNCED recommendations. ■

UNDP—Michael Dalcerro

Paris Meeting Reviews Impact Assessment Capacity

While technology assessment, monitoring and forecasting are essential for sound policy-making, they have not been widely employed in developing countries and there are numerous opinions as to their applicability.

There are those who maintain that momentous events in the recent past would not have been predictable by TA and that social needs and consequences should be factored into TA methodology. Others question the relevance of Western TA methods in a developing-world context. Still others feel that the current state of the art is of universal interest, although ways must be found to adapt it to specific development needs.

Expert group

These and other thoughts were presented in papers to an international expert group meeting on Technology Assessment, Monitoring and Forecasting, held at UNESCO House in Paris from 25 to 28 January.

The meeting was convened by the United Nations within the framework of its programme in science and technology for development, in cooperation with UNESCO and UNIDO. It was opened by Mr. Arnan Badran, Assistant Director-General for Science of UNESCO and chaired by Dr. Jacques Marcovitch, Director of the Institute for Advanced Studies of the University of Sao Paulo. The meeting rallied 65 science and technology specialists from Governments, international bodies, non-governmental organizations and the private sector for discussions on a range of concerns including:

- The integration of technologies into national development processes and associated risks to sustainable development;
- The need for developing countries to have endogenous technology assessment and monitoring capacity;
- Current methodologies for impact assessment and the role of the Science and Technology Branch as the focal point for TA in the United Nations system.

Report

These and other issues covered in Paris will be the subject of a report now being prepared for use by Governments, development agencies and TA training workshops.

Vienna

In 1979, the United Nations Vienna Conference on Science and Technology for Development promoted the need to share information and other expertise to promote nations' independent capacity to make the right choices for their societies' development, and in 1989, the General Assembly designated the Centre for Science and Technology for Development (now the Science and Technology Branch of the Science, Technology, Energy, Environment and Natural Resources Division in the Department of Economic and Social Development) as the focal point for contacts with Governments on this subject. ■

Climate Change and Agriculture

Global warming is likely to have some positive spin-offs for food and forest production, but, according to the United Nations Food and Agriculture Organization (FAO), it also threatens to widen the gap in living standards between the world's richest and poorest people.

A rise in the Earth's temperature would push the climate zones and ecosystems of the middle latitudes between 200 and 700 kilometres closer to the poles over the next 200 years, enabling crops to be grown in areas which are now too cold. But the major beneficiaries of this move would be temperate-zone countries such as the United States and Canada, which already produce much of the world's grain. Unless crops and farming systems can be adapted to changing conditions, arid and semi-arid nations are likely to suffer. FAO estimates that if the Sahara desert shifted 200 kilometres southward, the number of people which Sahelian countries could feed from their own resources would fall by 30 per cent.

Lower production

FAO experts note that, among other risks, increased cloud cover could reduce photosynthesis and cause a drop in plant productivity; reduced snow cover at higher altitudes could expose winter crops to more frequent frosts; floods, droughts and intense mid-season dry spells could become more common, as could hurricanes and cyclones. More variable rainfall and an increase in plant evapo-transpiration could reduce the effectiveness of some irrigation schemes. And an expected rise in sea level by up to one metre by the year 2100 could swallow large tracts of low-lying arable land. Lowlying islands like the Maldives and some Pacific atolls might disappear into the sea, and vast numbers of people living in fertile delta areas of Indonesia, Viet Nam, China, Myanmar, Pakistan, Nigeria and South America could be forced to flee to higher ground.

Fish stocks could also be affected in unpredictable ways. FAO officials say that global warming could lead to a shift in the production and distribution of plankton and cause changes in marine habitats. Inland fishing in Asia might also be affected as drought, floods and high temperatures affected shrimp, mollusc and mullet ponds.

Environmentally sound agriculture

FAO experts meanwhile are working overtime to find ways of making farming techniques more environmentally sound and to cushion food, forestry and fisheries production from the problems that might lie ahead.

"Agriculture is more sensitive to climate change than any other sector of the economy", said Mr. Edouard Saouma, Director-General of FAO, who noted that agriculture is also a major contributor to the phenomenon. By some estimates agricultural land use practices, including deforestation, may be responsible for 30 per cent of all carbon dioxide emissions, 50 per cent of methane and perhaps as much as 90 per cent of nitrous oxide.

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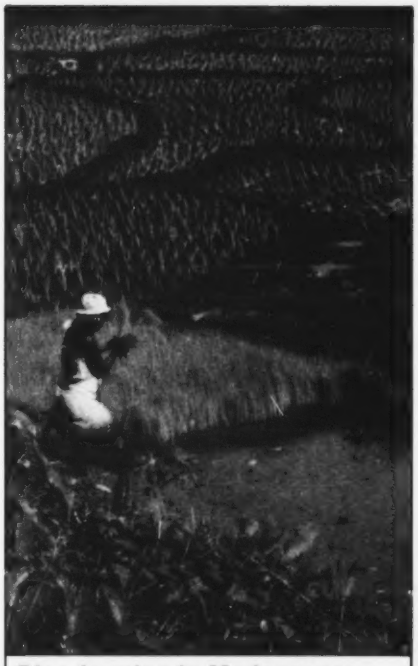


UNDP

Rice farming in Madagascar

UNDP

Livestock rearing and rice cultivation release sizeable quantities of methane into the atmosphere

Climate change
(Cont. from Pg. 3)

Livestock rearing and rice cultivation both release sizeable quantities of methane into the atmosphere, as do wild ruminants and natural swamps. Methane emissions from stomach fermentation in cattle, sheep, goats and buffalo account for an estimated one fifth of the world's methane gas—close to 3 per cent of total greenhouse gases.

Methane

Flooded rice cultivation in paddy fields produces an estimated 40 per cent of the world's total methane emissions, and the use of mineral fertilizers contributes to the release of nitrous oxide.

The burning of forests to make way for crop and pasture gives off carbon dioxide and other gases which block heat from escaping the Earth's atmosphere and thereby contributes to global warming. It also robs nature of an important sink for carbon dioxide.

UNCED

Information gathering on these and other activities has been assigned to an FAO working group which will help countries establish national net emissions from agriculture. Exact data will be needed if a tradeable emission quotas system or a carbon tax system are to be implemented under the Framework Convention on Climate Change discussed at last year's United Nations Conference on Environment and Development (UNCED).

Early warning

FAO has a Global Information and Early Warning System in place, which combines the use of satellite remote sensing technology to study weather patterns and crop yields with an agrometeorological database which collects rainfall and temperature patterns in developing countries. The Early Warning System alerts countries to conditions which threaten their food production or supply.

Conference

FAO also uses satellite remote sensing to study deforestation and changes in land use. Details of these and other aspects of FAO responses to global warming will be presented to an Intergovernmental Conference on UNCED's Climate Programme in Geneva (April 14-16). ■

New Power Fuel From Venezuela

A new fuel mix developed by the State oil company Petroleos de Venezuela (PDVSA) and British Petroleum has established a strong international following in Canada, Japan, the United Kingdom and Spain.

The fuel Orimulsion combines 70 per cent natural bitumen and 30 per cent water with a surfactant which keeps the mixture stable for transportation and use as a fuel oil alternative for electric power generation. PDVSA quadrupled its annual output of Orimulsion to 1.1 million tonnes in 1991 and expects to be selling 41 million tonnes a year by 1996.

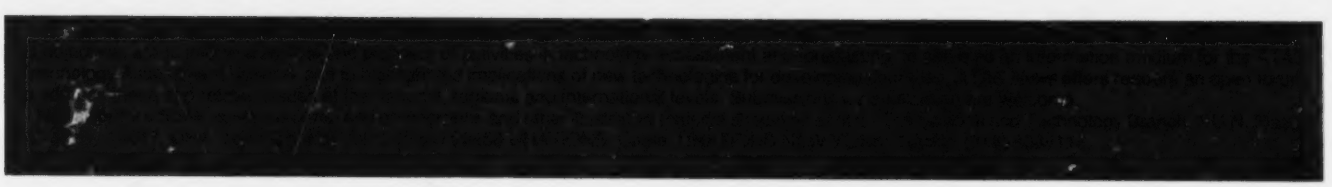
The company says that it costs little to adapt fuel oil plants to burn Orimulsion as an economic long-term alternative to coal as well as fuel oil.

Questions

Some questions have been raised in the United States and in Britain about sulphur dioxide and nitrogen oxide emissions from Orimulsion, but the company insists that it burns cleaner than either 2.5 per cent sulphur coal or 3.5 per cent sulphur fuel oil. The company says that it also produces about 20 per cent less carbon dioxide than coal and that a second generation of Orimulsion is even cleaner.

World's largest

Venezuela has the world's largest deposits of bitumen and extra-heavy crude oil and earns four fifths of its export income from the sale of oil products. ■

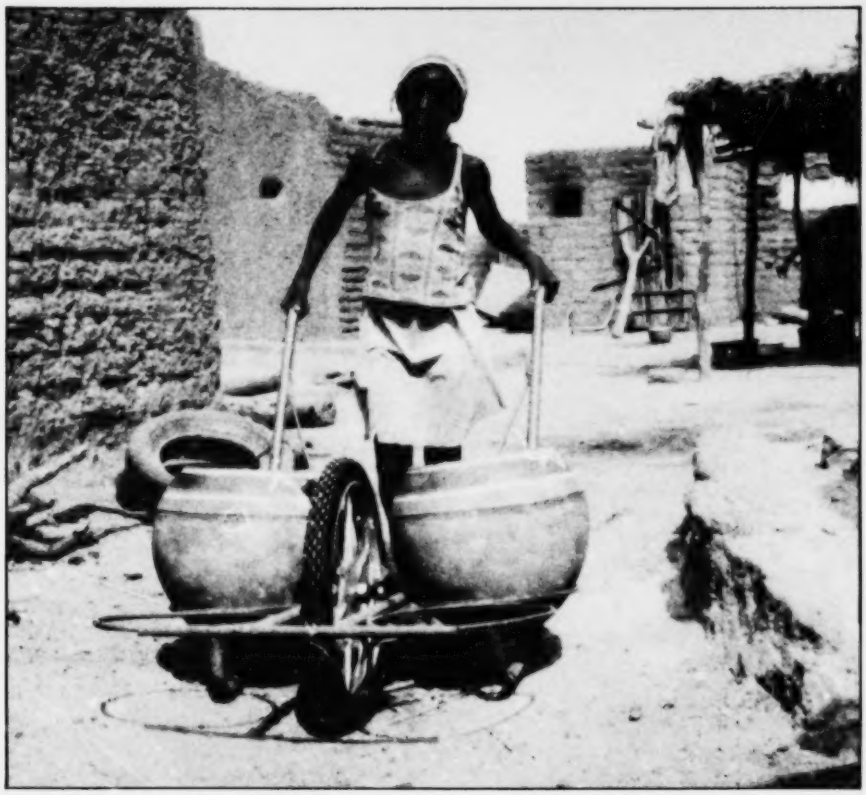


New Book on Women in Agriculture

Although women play a key role in small-farm agriculture around the world, new agricultural technologies are rarely designed or introduced with their needs in mind.

A new book, *Gender Analysis in Agricultural Research*, released by the Colombia-based International Center for Tropical Agriculture (CIAT), takes a step towards defining criteria to integrate gender analysis into technology research and training. It is essentially a compilation of papers on gender issues in agricultural development presented by scientists from Latin America in a 1991 workshop. It is available in English and Spanish.

The book can be ordered from the Publications Distribution Office, International Center for Tropical Agriculture, A.A. 6713, Cali, Colombia, for $US 8, including airmail postage. ■



UNDP

ACC Task Force Holds 13th Session

The ACC Task Force on Science and Technology for Development held its 13th session in New York from 30 November to 2 December. The meeting maintained a strong focus on inter-agency cooperation and system-wide coordination, but was constrained by uncertainties related to three main factors. They were:

- The ongoing restructuring of the United Nations;
- The rapid evolution of international relations with the end of the cold war;
- Ongoing discussions related to formal United Nations follow-up to the Conference on Environment and Development (UNCED).

Agenda

The Task Force agenda covered, among other things, modalities for a new Commission on Science and Technology for Development, the commercialization of biotechnology and questions related to intellectual property rights, endogenous capacity building and the need to build a coalition of domestic, bilateral and multilateral resources—financial and otherwise for science and technology for development.

Policy organ

The Task Force noted the need for the new Commission on Science and Technology for Development to become an effective science and technology policy-making organ within the United Nations system, something which would require efficient interaction with ECOSOC and its subsidiary organs, the newly established Commission on Sustainable Development and the United Nations agencies. The Commission will hold its first session from 12 to 23 April.

The Director of the Science, Technology, Energy, Environment and Natural Resources Division (STEENRD), Ms. Dunja Pastizzi-Ferencic, reminded the Task Force that UNCED's Agenda 21 recognized the role of science and technology as a building block for sustainable development. The objective of restructuring, she said, was to secure a unity of purpose by creating linkages between analytical and research work, coordination and operational activities, as well as with the political and humanitarian activities of the United Nations. The Director said that the Department of Economic and Social Development (DESD) was promoting the idea of joint programming which went beyond administrative coordination. Post-UNCED and post-cold-war conditions opened the door to better cooperation not only within the United Nations system but also with other key actors, including Governments and non-governmental organizations, she said. ■

General Assembly Follows Up on Earth Summit

In reply to international demand for practical responses to the United Nations Conference on Environment and Development (UNCED), including its Agenda 21, the General Assembly passed a series of resolutions at its forty-seventh session giving approval to, among other things:

- Setting up a high-level Commission on Sustainable Development;
- Convening a Global Conference on the Sustainable Development of Small Island Countries;
- Establishment of an intergovernmental negotiating committee to elaborate on an International Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa.

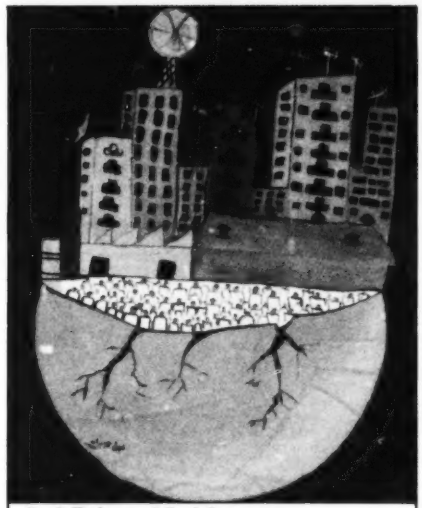
Commission on Sustainable Development

The Economic and Social Council was requested to set up the high-level Commission on Sustainable Development at its organizational session this year (26 January, 2-5 February and 29-30 April). The Commission's functions will be to:

- Ensure the effective follow-up to UNCED;
- Enhance international cooperation and rationalize the intergovernmental decision-making capacity for the integration of environment and development issues; and
- Examine the progress of implementation of Agenda 21 at national, regional and international levels.

Recommendation

It is recommended that the Commission consist of representatives of 53 Member States elected by ECOSOC for three-year terms with due regard for equitable geographic distribution. Observer status will apply to other Member States and United Nations observers. A High-level Advisory Board of eminent persons will support the Commission's work by providing expert advice.



Khaled Mohammed Jankou, Libya

3rd Prize, 12-14 years

Island Conference

The Preparatory Committee for the First Global Conference on the Sustainable Development of Small Island Developing Countries is scheduled to meet on 15 and 16 April 1993 for an organizational session with regional technical meetings to follow. The Preparatory Committee will hold its first substantive session from 2 to 13 August this year at United Nations Headquarters. The Conference itself is scheduled to be held for two weeks in April 1994.

An Intergovernmental Negotiating Committee for a Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification will hold its first substantive session from 24 May to 4 June in Nairobi, Kenya. It is hoped that the Convention will be ready for signature by June 1994.

Conference on Fish Stocks

The first substantive session of the United Nations Conference on Straddling and Highly Migratory Fish Stocks is scheduled to take place from 12 to 30 July 1993. The Conference will complete its work before the forty-ninth session of the General Assembly. ■

Young Artists in UNFPA Competition

The graphic illustrations on this page and the pages which follow were prize-winning entries in a UNFPA poster competition for children.

Zhang Yuqiu, China

3rd Prize, 9-11 years

Pan Wang, China

3rd Prize, 6-8 years

Forestry Protection for Gabon

The World Bank has approved a $22.5 million loan for environmental protection in Gabon.

The money will help to finance forestry protection and replacement in coastal zones, bolster government environmental protection agencies, and promote the growth of non-governmental organizations to safeguard the environment.

Dense forests cover about 85 per cent of this small African country, but loggers have already cleared timber resources in coastal areas, endangering the habitat of 19 species of primates, including gorillas and chimpanzees, and 600 species of birds. ■

Micro-mill Increases Women's Income

Although rural women do half the work in raising a rice crop, the biggest share of the profits is made by millers and traders who are men. Portable rice mills developed by the International Rice Research Institute (IRRI) in the Philippines (see photo), however, are saving rural women many hours of tedious labour each day and giving them a cash income.

Low cost

Micro-mills costing as little as $230 can mill 50 kilogrames of rough rice an hour, compared with the half day of manual labour needed to pound just 5 kilos for home use. The mills, which can be purchased by women's groups and transported to nearby villages for hire, can be driven by an electric motor or an internal combustion engine.

By-products

The mill generates two by-products,—hull and bran. The bran can be recycled for stock feed and IRRI is trying to develop a cooking stove which will burn hulls. Mills have also been sent to Bangladesh and Indonesia for testing and adaptation to local conditions.

Blueprints of the IRRI machines are available free of charge to potential manufacturers by writing to The International Rice Research Institute, Engineering Division, P.O. Box 933, Manila, Philippines. ■

Conference on Water Use

The Asian Institute of Technology (AIT) will hold an International Conference on Environmentally Sound Water Resources Utilization in Bangkok, Thailand, from 8 to 11 November.

Co-sponsors of the Conference include the International Water Resource Association, the Deutsche Gesellschaft für Technische Zusammenarbeit, the Canadian International Development Agency and the Asia and Pacific Division of the International Association for Hydraulic Research.

Further information is available from Prof. Tawatchai Tingsanchali, Division of Water Resources Engineering, Asian Institute of Technology, G.P.O. Box 2754, Bangkok 10501, Thailand, Fax: 66-2-516-2126; or Glenn E. Stout, International Water Resources Association, 205 N. Mathews, Urbana, IL 61801, USA, Fax: 217-244-6633. ■

IRRI

Filipino women process their rice in a portable micro-mill

Squeeze on Nuclear Power

The World Watch Institute maintains that the nuclear power industry is being squeezed out of the gobal energy market-place.

In a survey with the World Information Service on Energy (WISE) and Greenpeace International, World Watch found that between 1991 and 1992, total installed nuclear generating capacity declined for the first time since the industry began in the 1950s. There were 421 nuclear plants in commercial operation worldwide in 1992— 10 fewer than there were at the peak in 1989—and they provided less than 17 per cent of the world's electricity.

Expensive

The report notes that while the nuclear industry has tried to use concerns about global warming to revive interest in nuclear energy, this would be an exceedingly expensive way to displace coal-fired plants, even if public opinion favoured the nuclear option.

"In order to offset even 5 per cent of current global carbon emissions would require that worldwide nuclear capacity be nearly doubled from today's level at a cost exceeding a trillion dollars", the report states.

"There were 49 nuclear plants under active construction worldwide at the beginning of the year, a quarter as many as a decade ago. Most are nearing completion so that by 2000 the world will have at most 360,000 megawatts of nuclear capacity—only 10 per cent above the current figure of 325,942 megawatts. This is less than one tenth the forecast made by the International Atomic Energy Agency (IAEA) at the time of the first oil price hike in 1974."

For a copy of The World Nuclear Industry Status Report: 1992, please contact Greenpeace International, c/o Canonbury Villas, Islington, London N1 2PN, United Kingdom. ■

Latifa Boucheloukh, Algeria

2nd Prize, 9-11 years

Technology and Democracy

Technology and Democracy—The Use and Impact of Technology Assessment in Europe was the theme of the Third European Congress on Technology Assessment held in Copenhagen from 4 to 7 November.

Issues discussed included:

- The challenge of sustainable development to democracy;
- Global cooperation;
- Technology transfer and assessment in Eastern Europe.

Special workshops focused on worker participation in technology assessment (TA), risk perception and the role of public information in the area of genetic engineering, and the conversion of military technology and production. A significant number of participants represented institutions involved in TA activities at governmental, academic and private-sector levels throughout Europe. ■

Abdelrazek Hafiane, Algeria

First Prize, 15-18 years

Ekachai Nimlaor, Thailand

First Prize, 6-8 years

For further information, contact:

The Science and Technology Branch
United Nations
New York, New York 10017
United States of America
Telephone: (212) 963-8435
Fax: (212) 963-1267

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Edited by Ian Steele